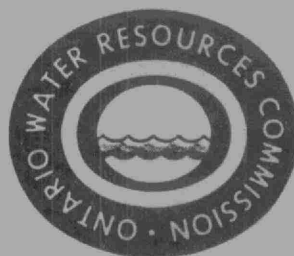


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THE
ONTARIO WATER RESOURCES
COMMISSION

WATER POLLUTION SURVEY

of the

VILLAGE OF SOUTH RIVER
DISTRICT OF PARRY SOUND

1972

VILLAGE OF SOUTH RIVER
DISTRICT OF PARRY SOUND • 1972

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FOLLOW-UP REPORT
ON A
WATER POLLUTION SURVEY

OF THE

VILLAGE OF SOUTH RIVER
DISTRICT OF PARRY SOUND

ONTARIO WATER RESOURCES COMMISSION
Division of Sanitary Engineering
District Engineers Branch

February 1972

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MAP

I INTRODUCTION

Subsequent to correspondence between the OWRC, the municipality of South River, and the Ontario Housing Corporation, staff of the District Engineers Branch of the Ontario Water Resources Commission conducted a follow-up water pollution survey of the Village of South River on June 2, 1971. The original pollution survey, which was conducted in 1967, did not provide conclusive evidence that a pollution problem existed. Therefore, it was necessary to clarify the justification of establishing a Provincial project to sewer the municipality at this time.

II GENERAL

The Village of South River is situated approximately 175 miles north of Toronto on Highway #11. The population has decreased from a maximum of 1,047 persons in 1955 to a present number of 969 persons (see graph).

Refer to the appended map of the village for the location of streets, watercourses and sample points.

III. DISCUSSION

(1) Sanitary Waste Disposal

The residential and commercial areas are situated on a flat plain (see accompanying photographs) consisting of loose to medium dense brown sand. Associated Geotechnical Services Limited conducted a soils investigation of the village in May, 1968 and confirmed that the water table is relatively low with regard to the proper operation of a tile bed system. The depth of the water table in the eastern portion of the village is approximately 8 feet and in the western portion is roughly 15 feet.

The North Bay and District Health Unit has disclosed that there are minor problems arising from commercial establishments on Ottawa Avenue in the central portion between Highway #11 and the railway line; however, the problems could be corrected on an individual basis by upgrading the existing septic tank and tile bed systems.

There are no documented problems of malfunctioning sewage disposal facilities in the residential areas to the west of Highway #11 or to the east of the railway line. Due to the more concentrated conditions in the central portion of the village, it is felt that additional development in this area should be limited.

(2) Industrial Waste Disposal

As stated in the original pollution survey, industry in the village is minimal. The Beaver Charcoal Company has since closed down, and there are no reported problems with the Edward C. White & Company saw mill. The Division of Industrial Wastes of the Ontario Water Resources Commission is presently working with the D.A. Clark Veneer Company to rectify problems arising from runoff at its wood chip disposal area.

(3) Water Quality

Samples collected from streams and ditches within the village were obtained and analysed. The sampling points are outlined on the enclosed map. Laboratory analyses are appended with a pertinent description of each sampling point.

The chemical and bacteriological results supplement the fact disclosed in the original pollution survey that the quality of the South River in this area is within the Ontario Water Resources Commission's water quality objectives. There was no evidence of discharge of contaminating waste to ditches and streams within the village.

IV COMMENTS

It is apparent that the village is established on land which can readily absorb subsurface discharges by means of septic tank and tile bed systems. Bacteriological and chemical analyses of the raw water at the municipal water works pumphouse have indicated that no contamination of the ground water is occurring.

It is considered that, if efficient subdivision controls are applied to ensure that high residential concentration would not occur, communal sewer services will not be necessary.

V SUMMARY

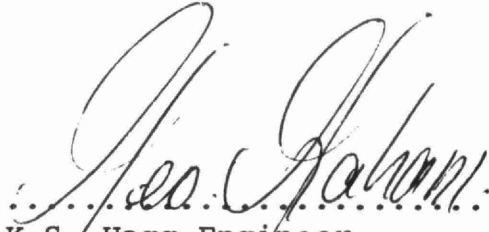
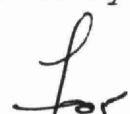
A follow-up water pollution survey of the Village of South River was conducted by District Staff on June 2, 1971, to verify the necessity of providing communal sewer services for the municipality under the Provincial method of financing.

It is apparent that the land on which the village is established is capable of supporting moderate residential and commercial development on individual septic tank and tile bed systems; hence, it is apparent that a communal sewage project is not necessary at this time and that it will not be necessary in the future provided that development is limited accordingly.

VI RECOMMENDATIONS

It is recommended that:

1. The Provincial sewage programme for the Village of South River remain in abeyance and that the few malfunctioning disposal systems be rectified.
2. Subdivision and zoning controls be applied to ensure that highly concentrated development does not occur, especially within the central portion of the village between Highway #11 and the railway line and in the area bordering the spring water supply utilized as the source of supply for the municipal water system.

Prepared by:.....
for  K.S. Hogg, Engineer
District Engineers Branch
Division of Sanitary Engineering

/cs

- South River - looking south
along Main Street

South River - looking east
along Ena Avenue

-

- South River - looking south-east
from Ottawa Avenue and Main Street

EXPLANATION AND SIGNIFICANCE OF LABORATORY ANALYSES

A. Bacteriological Examination

Bacteriological examinations were performed on samples from the watercourses. The Membrane Filter technique was used to obtain a direct enumeration of coliform organisms. These organisms are normal inhabitants of the intestines of man and other warm blooded animals. They are always present in sewage and are generally minimal in other pollutants. The results of the examinations are reported as M.F. Coliform Count per 100 ml.

The Commission's objective for surface waters in Ontario is a total coliform count of not greater than ^{*}1,000 organisms per 100 ml., and a fecal coliform count of not greater than ^{*}100 organisms per 100 ml.

B. Chemical Analysis

The chemical analysis performed on stream and ditch samples included determinations for biochemical oxygen demand, suspended solids and anionic detergents.

(1) Biochemical Oxygen Demand (BOD)

Biochemical oxygen demand is reported in milligrams per litre (mg/l) and is an indication of the amount of oxygen required for stabilization of decomposable organic matter present in sewage, polluted waters or industrial wastes. The completion

* A monthly geometrical mean of the results of raw water samples collected on a weekly basis (minimum of one sample per week).

EXPLANATION AND SIGNIFICANCE OF LABORATORY ANALYSES (cont'd)

of the test requires five days, under the controlled incubation temperature of 20°C.

The Commission's water quality objectives are such that discharges of oxygen consuming wastes (BOD or COD) should be limited to a level which will not cause depression of dissolved oxygen concentrations to below 6 mg/l in receiving waters supporting cold water fisheries and to 5 mg/l in receiving waters supporting warm water fisheries.

(2) Solids

The laboratory does tests to determine the total and suspended solids in a sample. The value for dissolved solids is determined by taking the mathematical difference between the total and suspended solids.

The concentration of suspended solids expressed in milligrams per litre (mg/l) is generally the most significant of the solids analyses in regard to stream water and outfall discharge qualities.

(3) Alkyl Benzene Sulfonate (ABS)

The presence of anionic detergents as ABS is an indication that domestic waste is present.

POPULATION IN HUNDREDS

VILLAGE OF SOUTH RIVER
POPULATION CURVE

15

10

5

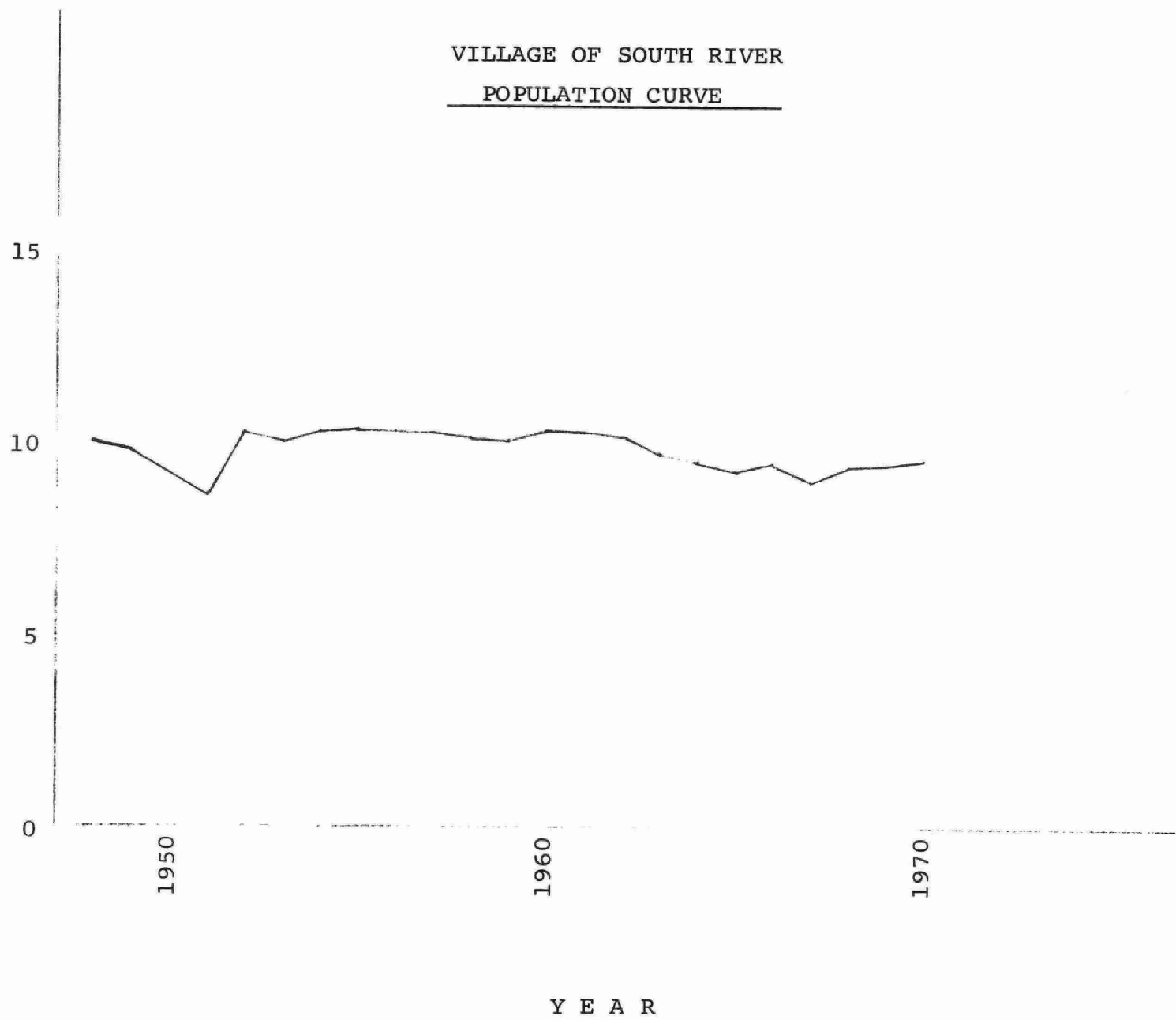
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1950

1960

1970

Y E A R



VILLAGE OF SOUTH RIVER

FOLLOW-UP POLLUTION SURVEY

SAMPLING POINT NUMBER	DESCRIPTION	DATE	5-DAY BOD mg/l	S O L I D S			ANIONIC DETERGENTS AS ABS mg/l	M.F. COLIFORM COUNT PER 100 ML	
				TOTAL mg/l	SUSP. mg/l	DISS. mg/l		TOTAL	FECAL
SP-1	South River at tip of peninsula	June 2/71	3.0	70	10	60	0.0	20	0
SP-2	South River at Bridge to Wendigo	"	2.0	70	5	65	0.0	0	0
SP-3	Wood chip runoff at D.A. Clark Veneer Co.	"	28.0	255	15	240	0.1	130,000	1,200
SP-4	Creek at Broadway St.	"	2.5	70	5	65	0.0	20	5
SP-5	Creek at Mill St.	"	0.8	160	5	155	0.0	50	35
SP-6	Infiltration Well on east side of Hwy #11	"	1.6	760	5	755	0.1	0	0
SP-7	East drainage ditch at Hwy #11	"	2.5	150	5	145	0.0	10	10
SP-8	West drainage ditch at Hwy #11	"	2.0	160	5	155	0.0	45	20
SP-9	Confluence of east drainage ditch and South River	"	1.0	30	5	25	0.0	0	0
SP-10	South River at Hwy #11	"	2.5	40	5	35	0.0	30	15

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1972

~~TERMINAL STREAM: FRENCH R.~~

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